

THE MEXICAN SPECIES OF IDIODONUS (HOMOPTERA-CICADELLIDAE)

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The Genus *Idiodonus* was described by Ball¹ in 1936 to include several species of blunt headed North American leafhoppers. *Jassus kennicotti* Uhler was made the genotype. With few exceptions these are tree inhabiting forms. In Mexico they have been collected from trees and shrubs all the way from the low desert shrub vegetation near sea level to 12,000 feet elevation from evergreens in some of the higher mountain ranges. More species have been found at altitudes of 5,000 feet or more than at lower elevations.

Only a few species apparently live at low altitudes. *Schwartzi* has been taken in the low desert and up to 5,000 feet elevation. At 5,000 feet elevations several species are found, some of which, *vinculus*, *claustrus* and *copulus* for instance, have not been taken at higher elevations. Others such as *acus*, *wickhami*, *albocinctus*, *latidens* and *nigridens* are found all the way from 5,000 to 10,000 feet and some even higher. A group of species, such as *rubellus*, *spatulus*, and *bicinctus* have not been found at elevations lower than 7500 feet. *Apertus*, *diserus*, *goodi*, *incidus* and *incisurus* have been taken only at 8500 feet elevation or higher while *titulus*, *insculptus* and *edentulus* have not been taken at elevations of less than 10,000 feet. Many of the species of this group are definitely alpine in distribution.

Very little work has previously been done on the Mexican fauna and as a result 30 of the 35 species treated in this paper are described as new. The largest group of related species is the *belli* series. The *kennicotti* group is represented by a few species, such as *vinculus*, *spatulus*, *copulus* and *apertus*. *Latidens* and *bakeri* are species apparently closely related to *terminalis*.

Thamnotettix fasciaticollis Stål is a species which is apparently represented in this material, but since the description will apply to any one of several species, and I have no authentically identified material, I am not able to definitely place the name upon any one of the species of this group.

The genus *Colladonus* was also described by Ball at the same time as *Idiodonus*, and *Thamnotettix collaris* Ball designated as the genotype. No specimens of the *collaris-clitellarius* group have been found in Mexico and it is doubtful if these can be distinguished as a generic group.

While this is not a completed list of the Mexican species it does bring together all available material at this time which has been collected by Dr. Alphonse Dampf, Professor of Biology at the Escuela Nacional de Ciencias Biologicas located at Mexico City, D. F., and the material collected by Drs. C. C. Plummer, J. S. Caldwell, E. E. Good and the writer during two field expeditions in many ecological habitats and various areas of Mexico. The author desires to express his appreciation to all of these colleagues for assistance rendered in the field studies.²

The color pattern of the head, pronotum and scutellum, are quite distinct and uniform and have proven to be good characters for the separation of species. The last ventral segment of the female is also quite a good structural character for the distinguishing of species. The male characters in this group have not proved to be of significant taxonomic value.

¹Bulletin Brook. Ent. Soc. 31: 57, 1936.

²Since completing the manuscript new type material has been collected in Mexico (1945) by Stone, Plummer, Shaw, Balock, Elliott, Hershberger and the author. These type designations have been added to the appropriate descriptions.

The type material of all the species described in the following pages is in the private collection of the author.

KEY FOR SEPARATION OF SPECIES OR GROUPS BY COLOR PATTERNS

1. With black markings on apex or margin of vertex.....3
Without black spots or bands on vertex margin.....2
2. Yellow, without any markings on vertex and pronotum.....*graeculus*
With a row of fused spots just above margin.....*incisurus*
3. Vertex with black spots or a transverse band, often interrupted at middle between the
anterior margins of eyes.....6
Vertex without black markings except on margin.....4
4. Pronotum with a definite pale transverse band across middle or posterior half.....5
Without a pale transverse band on pronotum.....*schwartzi*
5. Pronotum with a broad transverse band on the posterior half.....*tubulus*
Pronotum with a narrow band at middle, curved convexly forward.....*rubellus spatulatus*
6. Usually with an uninterrupted black transverse band between eyes.....7
Markings usually in the form of broken bands or spots.....11
7. With conspicuous black spots, some of which are merged, on the entire anterior portion
of pronotum.....*insculptus*
Without spots, often with a black band on anterior portion of pronotum.....8
8. With a definite conspicuous black band on anterior margin of pronotum.....9
With only traces of black markings on central anterior portion of pronotum.....*clathrus*
9. With a black band on anterior margin of pronotum only.....*mexicans*
goodi titulus claustrus
- A band on posterior margin or disc as well as one on anterior margin.....10
10. A distinct band on disc, not close to posterior margin.....*bicinctus*
With a distinct band on posterior margin.....*pravus dampfi acus*
11. Black spots irregular and often quite small.....13
12. Black spots transverse often appearing as portions of broken transverse bands.....12
Usually a pair of short transverse spots—not an interrupted band,
copulus diserus bakeri latidens plummeri
Appearing more as an interrupted band between eyes,
caldwelli wickhami albocinctus and verecundus
13. Spots close to, usually touching eye.....14
Spots not touching eye.....15
14. Spots rather small, narrow.....*vinculus beameri*
Spots larger, irregular in form.....*incidus edentulus turpiter*
15. Spots just back of each ocellus rather large, rounded.....*anademus excavatus*
Spots above ocelli quite small.....*apertus nigridens*

Idiodonus schwartzi (Ball.)

Thamnolix schwartzi (Ball) Canadian Entomologist 43: 197, 1911.

A broad headed species with margins almost parallel. Length female 5.5 mm.

Vertex broadly rounded, twice as wide between eyes at base as median length.

Color: Vertex white with red ocelli and a pair of small black spots on anterior margin about equidistant from each other and the eyes. A pale yellowish band extending between eyes across the basal portion. Pronotum dull gray tinted with yellow on anterior margin. Scutellum with the basal angles fulvous, median portion white, tinted with yellow. Elytra whitish subhyaline. Claval veins white. Veins on the disc brown. Face and beneath creamy.

Genitalia: Female last ventral segment with posterior margin produced and sinuate, slightly indented at center forming two broad slightly produced lobes either side of middle.

Specimens have been collected at Saltillo, Coah., Mexico, elevation 5000 ft., June 10, 1931 (M. F. 2058); Montemorelos, N. Leon, Mexico, elevation 1500 ft., June 3, 1930 (M. F. 2023) and Hacienda Fresno, Coah., Mexico, (M. B. 328) by Dr. A. Dampf. One specimen apparently belonging to this species was collected from desert shrubs north of Monterrey, N. Leon, elevation 1700 ft., September 22, 1941, by Good, Caldwell and DeLong.

Idiodonus apertus n. sp.

Resembling *schwartzi* in general form and appearance but with distinct color markings and female genitalia. Length 5 mm.

Vertex bluntly produced almost twice as broad between eyes at base as median length.

Color: Vertex white, ocelli orange, two round black proximal spots at apex and a small brownish spot behind each ocellus on disc. Pronotum dull brown, a conspicuous pale transverse band across the disc marked with scattered flecks of reddish pigment. Scutellum creamy white, basal angles fulvous. Elytra grayish, subhyaline, claval veins white. Veins on the corium dark. Face pale, sutures and faint markings of arcs brownish, beneath pale marked with brown. Ovipositor brown.

Genitalia: Female last ventral segment with the lateral margins rounded to a produced tooth either side of a deep, squarely excavated median third extending more than one-third the distance to the base and which bears a broad sunken median spatulate process extending almost to the posterior margin of the segment.

Holotype female collected at Puebla, Pue., Mexico, elevation 8500 ft., October 18, 1941, (K-78) by Plummer, Caldwell, Good and DeLong.

***Idiodonus rubellus* n. sp.**

Resembling *osborni* in general appearance but with different color markings. Length 5.5 mm.

Vertex broadly rounded, almost parallel margined, more than twice as wide between eyes at base as median length.

Color: Vertex creamy white tinted with orange, ocelli red with a pair of rather small round black spots at apex. Vertex, pronotum and scutellum with numerous red flecks. Pronotum dull brown washed with yellow, with a narrow inconspicuous pale median transverse band. Scutellum orange brown with a black impressed transverse median line, narrowly white margined on either side at middle. Elytra brown subhyaline. Veins and claval suture narrowly white. Veins on anterior portion of the wing inconspicuous. Face creamy, rather heavily flecked with red.

Genitalia: Female last ventral segment with the lateral angles produced, between which the posterior margin is deeply concavely excavated either side of a median rather broad spatulate process which does not extend to the lateral angles and is slightly notched at apex.

Holotype female collected at Mexico City, D. F., Mexico, elevation 7500 ft., September 1, 1939, by the author.

***Idiodonus vinculus* n. sp.**

Resembling *kennicotti* in form and general appearance but with different color markings. Length 6 mm.

Vertex broad and blunt only slightly produced, about two and one-third times as broad between eyes at base as median length.

Color: Vertex yellow with a pair of round black spots at apex. In male there is a narrow brown transverse band between the anterior margins of the eyes. In female the ends of the band are marked with a black spot the central portion of which is reddish brown. Pronotum dark brown with a median white transverse band, and a narrow band along posterior margin. Scutellum reddish brown with a median transverse impressed black line, margins on posterior half, narrowly white. Elytra dark brown subhyaline, veins paler. Face yellow.

Genitalia: Female last ventral segment with produced lateral angles, between which the posterior margin is rather deeply excavated either side of a broad median produced tooth half the width of segment which is shallowly notched at apex. Male plates triangular, elongate, tapered from base to long pointed apices.

Holotype female collected at Jacala, Hgo., Mexico, elevation 5000 ft., September 26, 1941. Allotype male taken on Acapulco Road, Mexico, November 22, 1938. Both collected by Caldwell, Good and DeLong. Also paratype females collected at Mexico City, September 26, 1945, elevation 8500 ft. and at K-287 Jalapa Rd., October 14, 1945, elevation 7000 ft., by Shaw, Elliott, Hershberger and DeLong.

***Idiodonus spatulatus* n. sp.**

Resembling *vinculus* in form and color but female with a spatulate last ventral segment. Length 5-6 mm.

Vertex broadly, roundedly produced, more than twice as wide between eyes at base as median length.

Color: Vertex yellow with minute red flecks, a pair of round black spots at apex. In the male there is a narrow interrupted transverse brown band between the anterior margins of the eyes. Pronotum brown, darker on posterior two-thirds, a narrow white transverse band across middle. Scutellum orange, a median impressed dark transverse line and margins of posterior portion white. Elytra dark brown, subhyaline, veins paler.

Genitalia: Female last ventral segment with produced angles, between which the posterior margin is angularly excavated almost halfway to the base either side of a broad spatulate median process, the apex of which does not extend to the lateral angles of segment. Male plates elongate, triangular, apices long, tapered.

Holotype female and allotype male collected at Mexico City, D. F., Mexico, elevation 7500 ft., September 1, 1939, from shrubs by Plummer and DeLong. Paratype females collected at Mexico City, September 26, 1945, elevation 8500 ft., by DeLong, Hershberger and Elliott.

***Idiodonus copulus* n. sp.**

Resembling *kennicotti* in general form but with a narrower head and distinct coloration. Length, female 5.5 mm.

Vertex broadly rounded, almost parallel margined, more than twice as broad between the eyes as median length.

Color: Vertex white, ocelli red, two large round black proximal spots at apex, a triangular black spot just behind each ocellus, a broad orange brown transverse band between eyes at base. Pronotum dark brown with a median transverse white band. Scutellum, basal half orange brown. Median transverse impressed dark line from which a dark brown elongated spot extends to the margin either side of apex, posterior half white. Elytra smoky subhyaline. Veins of the clavus white. Veins anterior to the claval suture black. Face pale with black sutures and conspicuous dark brown arcs which fuse in a line either side of middle.

Genitalia: Female last ventral segment long, strongly, angularly produced from the lateral angles to form a pair of rather broad blunt teeth either side of a short V-shaped median notch.

Holotype female collected at Carapan, Mich., Mexico, elevation 5000 ft., (K-432) October 2, 1941, by Caldwell, Plummer, Good and DeLong. Paratype female taken at Taxco, Gro., Mexico, elevation 5700 ft., (M. F. 1554) December 23, 1929, by Dr. Dampf; and at K-287 Jalapa Rd., October 14, 1945, elevation 7000 ft., by Shaw, DeLong, Hershberger and Elliott.

***Idiodonus caldwelli* n. sp.**

Resembling *apertus* in general form but with more produced head, distinct coloration and genital characters. Length 4.5 to 5.5 mm.

Vertex bluntly produced, almost twice as wide between eyes at base as median length.

Color: Vertex orange yellow with two round black spots at apex and a transverse dark brown band near base, interrupted at the middle, and with the portion next to the eyes curved posteriorly. Pronotum orange yellow with a narrow anterior black margin and the posterior discal portion brownish. Scutellum orange yellow with semi-circular black spots on the basal angles. Elytra smoky and subhyaline. Claval veins yellow, claval suture broadly orange yellow and the veins anterior to the claval suture black. Face yellow with sutures and remnants of several pairs of arcs, brown.

Genitalia: Female last ventral segment convexly rounded to form prominent blunt teeth between which there is a deep narrow rounded excavation either side of a broad median blunt spatulate process which does not extend quite to the posterior margin of the teeth on either side. Male plates triangular, convexly rounded to elongate pointed apices.

Holotype female collected at Jacala, Hgo., Mexico, elevation 5000 ft., September 26, 1941, by Caldwell, Good and DeLong. Allotype male from Oaxaca, Oax., Mexico, collected June 10, 1935 (M. F.-6196) by Dr. Dampf. Paratype males and females from Chilpancingo, Gro., Mexico, elevation 4500 ft., October 25, 1941; Iguala, Gro., Mexico, elevation 2300 ft., October 25, 1941; Puento de Ixtla, Mor., Mexico, October 21, 1941; Uruapan, Mich., Mexico, elevation 5000 ft., October 1, 1941; Tuxpan, Mich., Mexico, elevation 4000 ft., October 5, 1941; Zitacuaro, Mich.,

Mexico, elevation 6700 ft., September 29, 1941; Carapan, Mich., Mexico, elevation 5000 ft., September 30, 1941; Taxco, Gro., Mexico, elevation 5700 ft., October 26, 1941, and Cuernavaca, Mor., Mexico, elevation 4900 ft., September 8, 1939, collected by Plummer, Caldwell, Good and DeLong. I take pleasure in dedicating this species to Dr. J. S. Caldwell.

***Idiodonus beameri* Ball.**

Idiodonus beameri Ball. Bull. Brooklyn Ent. Soc. 32 : 28, 1937.

A blunt headed species with an irregular row of black spots along vertex margin. Length 5.5 mm.

Vertex bluntly produced, almost parallel margined, twice as wide between eyes at base as median length.

Color: Vertex brown with a pair of large round proximal spots at apex. An elongated triangular black spot either side next ocellus which tapers to a point just above the apical spots. A quadrate spot just below ocellus between eye and ocellus another next each eye above ocellus. Pronotum dark brown. Scutellum yellow, basal angles brown, a heavy impressed brown cross on posterior half. Elytra brownish subhyaline, veins pale on clavus, dark brown on corium, costa broadly white. Face yellow.

Genitalia: Female last ventral segment almost truncate with a narrow V-shaped notch at middle reaching one-third the distance to base. Male plates elongate, roundly narrowed to form long filamentous apices.

Specimens of this species were collected at Uruapan, Mich., Mexico, elevation 5500 ft., October 1, 1941; Carapan, Mich., Mexico, elevation 5000 ft., October 2, 1941; Puebla, Pue., Mexico, elevation 8500 ft., October 18, 1941; Zimapan, Hgo., Mexico, elevation 6000 ft., September 26, 1941; Zitacuaro, Mich., Mexico, elevation 6700 ft., October 5, 1941, and La Guarda, D. F., Mexico, elevation 9800 ft., October 26, 1941. All specimens were collected from pine by Plummer, Good, Caldwell and DeLong. In 1945 numerous specimens were collected at Deserto de Leones, D. F., in October: at Cruz Blanca, Vera, in October and at Rio Frio, D. F., in October by Shaw, DeLong, Hershberger and Elliott.

***Idiodonus wickhami* Ball.**

Idiodonus wickhami Ball. Bull. Brooklyn Ent. Soc. 32 : 27, 1937.

A blunt headed species with red flecks on vertex, pronotum and elytra, with conspicuous black marks. Length 4 to 4.5 mm.

Vertex produced, bluntly angled, about twice as wide at base as median length.

Color quite variable. In well marked specimens the red flecks are conspicuous in the color pattern but may be entirely wanting. Vertex with a pair of elongated black spots at apex on margin, a median quadrate black spot just above these. A pair of black spots just beneath each ocellus and a rather narrow transverse black band just above ocelli between the anterior margins of the eyes which is slightly interrupted at the middle. Pronotum with a round, black spot behind each eye on anterior margin and irregular black mottling. Scutellum pale, with a pair of elongate median spots just back of pronotum, and a transverse black line on middle. Elytra pale, tinted with fuscus. Veins pale, often with rows of reddish flecks and darker pigment on veins. Face yellowish, heavily marked with broad dark arcs which are fused either side of median line and with black marginal sutures.

Genitalia: Female last ventral segment with the posterior margin convexly rounded from lateral margin and sinuate. Male plates elongate, triangular, concavely rounded to rather long acutely pointed apices.

This species is very common in the high altitude area and has been collected at Mt. Popo, Mexico, elevation 11500 ft., September 28, 1941; Mexico City, D. F., Mexico, elevation 7500 ft., September 1, 1939; September 16, 1923; La Guarda, D. F., Mexico, elevation 8500 ft., September 5, 1939; Chapingo, D. F., Mexico, elevation 9900 ft., March 31, 1924; Tlalpam, D. F., Mexico, September 16, 1923; Zitacuaro, Mich., Mexico, elevation 6700 ft., September 29, 1941; Carapan, Mich., Mexico, elevation 5000 ft., October 2, 1941; Toluca, D. F., Mexico, elevation 9700 ft., September 29, 1941; Puebla, Pue., Mexico, elevation 8500 ft., October 18, 1941; Rio Frio, D. F.,

Mexico, elevation 10300 ft., October 7, 1941; Zacapu, Mich., Mexico, elevation 6500 ft., October 4, 1941. Collected by A. Dampf, Caldwell, Plummer, Good and DeLong.

***Idiodonus belli* (Uhler)**

Jassus belli Uhler. U. S. Geological and Geographical Survey of the Territories Bulletin, 3 : 471, 1877.

A blunt headed yellowish species with black markings. Length 5 mm.

Vertex bluntly angled, rounded at apex, almost twice as broad at base as median length.

Color: Yellow with black markings. Vertex with a pair of round black proximal spots on margin at apex. A transverse black band between the anterior portion of the eyes which is enlarged at each end next the eye. Pronotum yellow, the anterior margin broadly marked with black, a narrow black margin posteriorly. Scutellum yellow with a T-shaped black marking on the posterior half. Elytra subhyaline, veins bright yellow. Face yellow, with the sutures, antennal pits and portions of the arcs on the face black. Beneath, thorax black, abdomen yellow with a black ovipositor.

Genitalia: Female last ventral segment almost truncate with a short narrow median incision. Male plates rather short, convexly rounded to blunt apices. Pygofer extended the length of the plates beyond their apices.

This is the common species of this group found in the Rocky Mountain area of the United States, no specimens which agree with this species have been taken in Mexico.

***Idiodonus claustrus* n. sp.**

Resembling *belli* in general appearance but with more produced head, distinct markings and genitalia. Length, female 4.5 mm.

Vertex produced, bluntly angled, less than twice as wide between eyes at base as median length.

Color: Vertex yellow with two large black spots at apex and a rather large spot beneath each ocellus, a broad black transverse band between the anterior portions of the eyes which is enlarged and curves basally at each end. Pronotum yellow, tinged with green, with a rather broad black anterior margin and some brownish markings on the disc. Scutellum yellow, black-margined anteriorly. A large T-shaped marking on the posterior half. Elytra black, subhyaline. The veins broadly conspicuously marked with yellow. Face yellow, sutures black, faint traces of black arcs on either side.

Genitalia: Female last ventral segment with the lateral margins broadly rounding to posterior margin which is slightly concave with a median, short, rather narrow, semi-circular excavation which is broadly black margined. Male plates small, triangular, elongate with pointed apices.

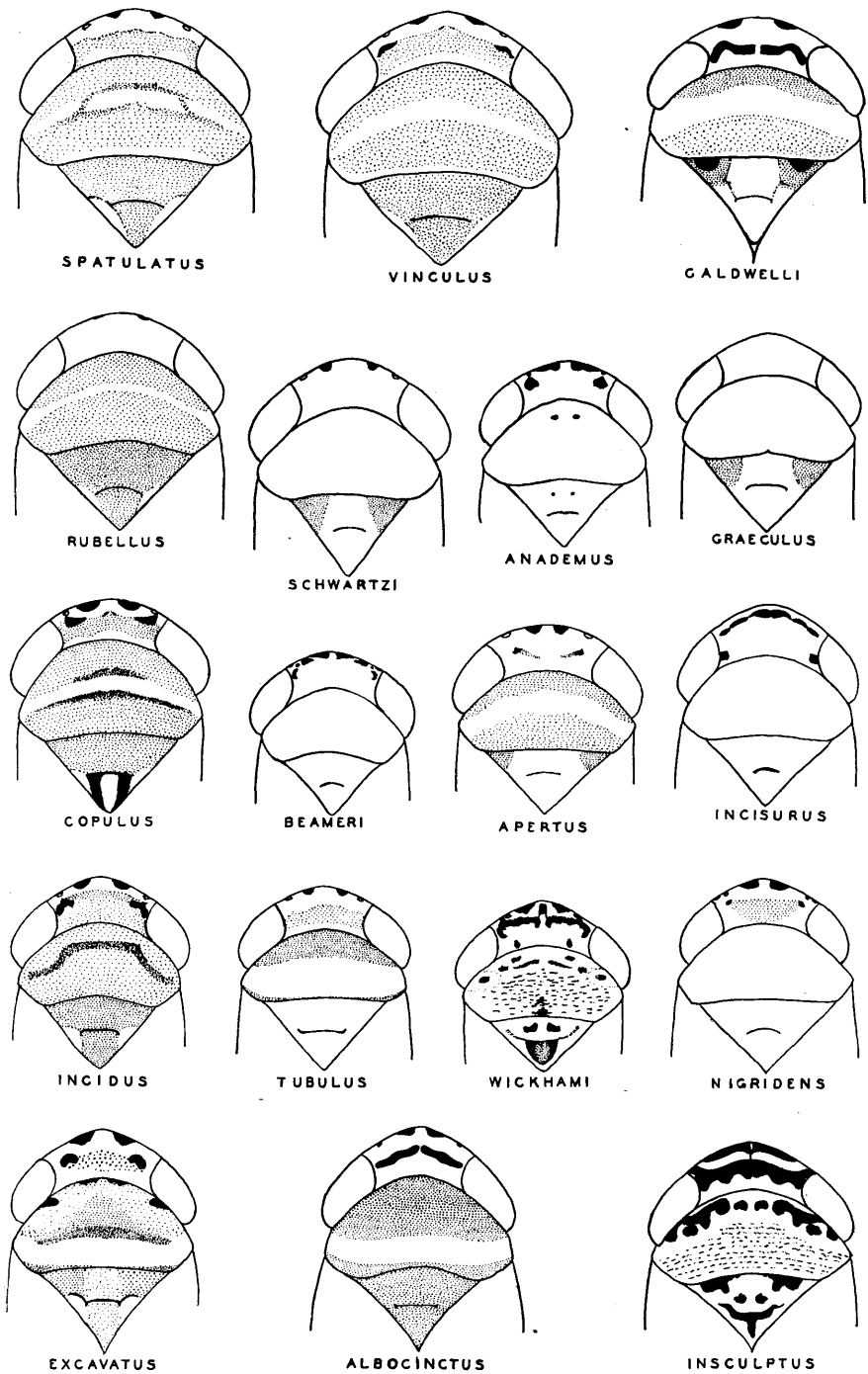
Holotype female collected at Orizaba, Ver., Mexico, elevation 4000 ft., October 17, 1941, by Plummer, Caldwell, Good and DeLong. Allotype male and paratype male collected at Las Cosca, Chiapas, Mexico, August 12, 1926, by Dr. Dampf. Paratype females were collected at Cruz Blanca, Vera., October 13, 1945, elevation 7000 ft., by Shaw, Hershberger, DeLong and Elliott.

***Idiodonus bicinctus* n. sp.**

Resembling *belli* in general appearance and coloration but smaller and with different markings. Female 4 mm.

Vertex produced forming a blunt apex, about one-third broader at base than median length.

Color: Vertex yellow with a pair of large round black spots at apex and a minute black spot just beneath each ocellus. A broad black transverse band between the anterior margins of the eyes. Pronotum yellow with two black transverse bands, one is on the anterior margin of the pronotum, another on the posterior portion of the disc which does not extend to the lateral margins, giving the appearance of two black and two yellow bands. Scutellum yellow with a narrow basal black broken band and a rather conspicuous T-shaped black marking on the posterior portion. Elytra black subhyaline, veins conspicuously yellow except on costal and apical portion. Face yellowish with sutures and portions of arcs on face black.



Dorsal view of heads of species of Idiodonus showing the most conspicuous color markings.

Genitalia: Female last ventral segment with posterior margin bluntly, slightly concave, with a shallow narrow median notch. Median portion of segment black margined, giving the appearance of a deeper excavation.

Holotype female collected at Mexico City, D. F., Mexico, elevation 7500 ft., September 13, 1939, by the author. Paratype female, Mexico City, D. F., Mexico, June 12, 1924, collected by Dr. Dampf (M. B. 62).

***Idiodonus dampfi* n. sp.**

Resembling *belli* in general appearance but with different color markings and distinct female genitalia. Length 4.5 mm.

Vertex blunt, almost twice as long at base as median length.

Color: Vertex creamy yellow, with a pair of large round black spots at apex and a smaller spot each side beneath the ocellus. A broad transverse black band between the anterior portions of the eyes, the posterior portion tinted with pale brown. Pronotum yellowish with a black band on anterior margin shading to brown on the disc and a narrow black band on the posterior margin. Scutellum pale brownish with a rather faint inconspicuous T-shaped mark on the posterior half. Smoky to blackish hyaline with pale veins. Face pale brownish, sutures conspicuously black, portions of dark arcs on upper half of face.

Genitalia: Female last ventral segment strongly produced forming a narrow conspicuous rounded tooth either side of a square shaped median excavation which is truncated at the base and black margined. Male plates broad at base gradually tapered to acutely pointed apices.

Holotype female collected at Cordoba, Vera Cruz, Mexico, elevation 3000 ft., November 19, 1930, by Dr. A. Dampf (M. F. 1962). Allotype male collected at Bella Vista, Mexico, September 17, 1933, by Dr. Dampf (M. B. 366). Paratype males collected at Cosomatepec, Ver., Mexico, November 30, 1924, (M. B. 103) and at Chapingo, D. F., Mexico, elevation 9900 ft., November, 1924, by Dr. Dampf. I take pleasure in naming this species for Dr. Dampf who is interested in a thorough study of the Mexican fauna and has spent a great amount of time in the field collecting and studying insect material. Paratype females collected on the Morelia Rd. at the borders of Mexico and Michocan on September 28, 1945, elevation 9200 ft., by Plummer, DeLong, Hershberger and Elliott.

***Idiodonus verecundus* n. sp.**

Resembling *belli* in general appearance and coloration but with a more angularly produced vertex and distinct female genitalia. Length 4.6 to 5 mm.

Vertex strongly produced and angled, one-third wider at base than median length.

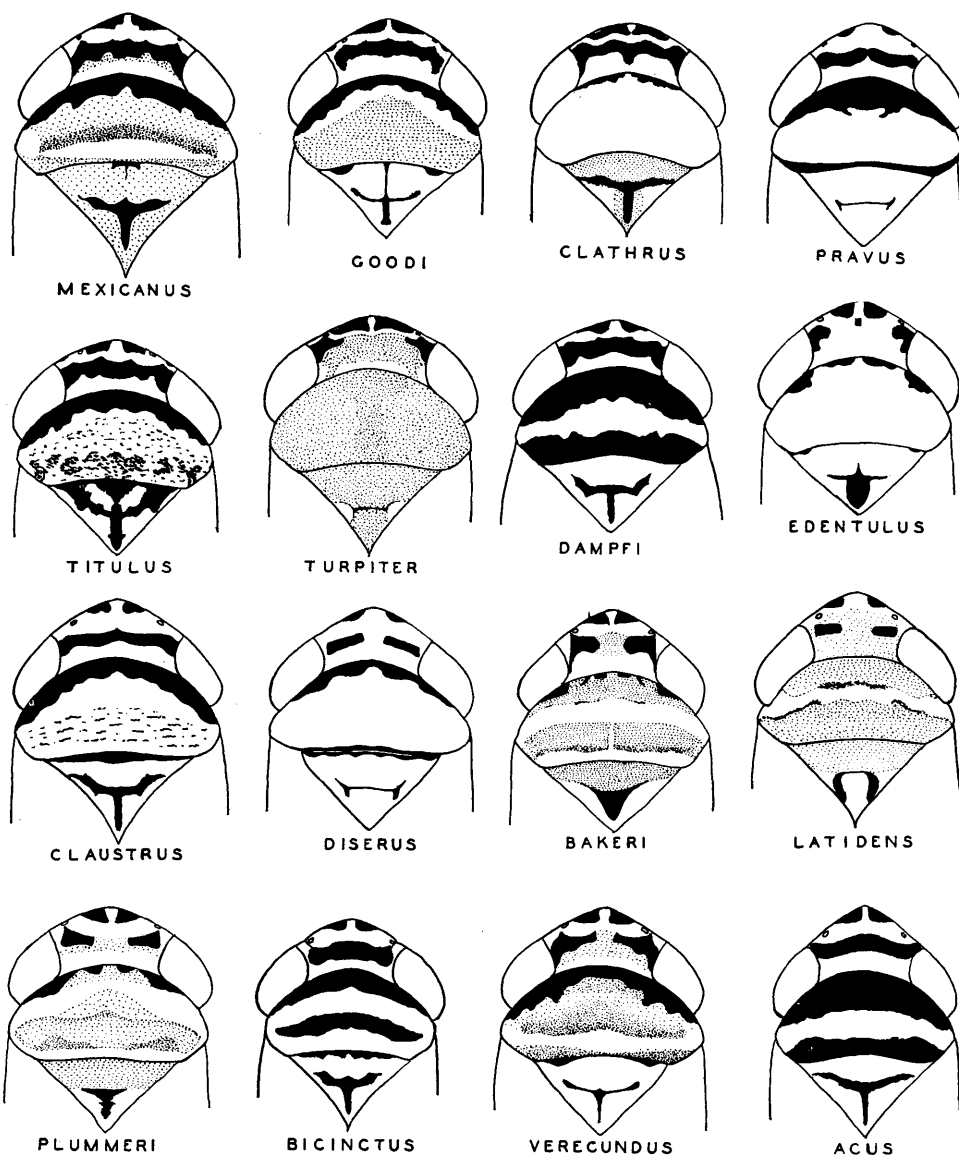
Color: Two large black spots at apex of vertex with a narrow pale portion between them. A rather conspicuous black spot beneath each ocellus, a rather broad black transverse spot each side between the anterior portions of the eyes which is narrowed on the disc and does not extend to the middle. Pronotum narrowly black margined anteriorly. Disc tinted with brown. Posterior margin dark brown forming a narrow pale band parallel to and not far distant from posterior margin. Scutellum pale brown with slight black markings on the basal angles, a T-shaped black mark on the posterior half. Elytra dark brown to black with pale veins. Face heavily marked with black or dark brown on sutures and arcs, beneath black or dark brown.

Genitalia: Female last ventral segment roundly produced to median fifth which is shallowly, squarely, abruptly excavated about one-sixth the distance to the base.

Holotype female collected at La Guarda D. F., Mexico, elevation 9800 ft., October 26, 1941, (K-40), from pine by Good and DeLong. Allotype male and female paratypes collected from pine on the Morelia Rd. at the border between the states of Mexico and Michocan, September 28, 1945, by Plummer, Elliott, Hershberger and DeLong. Paratype male and females collected from pine at Rio Frio, D. F., October 18, 1945, elevation 9500 ft., by Hershberger, Elliott and DeLong.

***Idiodonus acus* n. sp.**

Resembling *belli* in general coloration but with an angularly produced vertex and distinct genitalia. Length 4.5 to 5 mm.



Dorsal view of heads of species of *Idiodonus* showing the most conspicuous color markings.

Vertex angularly produced, about one-third wider between eyes at base than median length, Vertex distinctly pointed.

Color: Vertex white with a pair of large round black spots at apex. A rather broad, sinuate, black transverse band between the anterior margins of the eyes, posterior portion tinged with orange. Pronotum broadly black margined anteriorly, narrowly margined with black posteriorly, forming a broad transverse white band on posterior half which is bordered with orange anteriorly. Scutellum orange with a T-shaped black mark on the posterior half. Elytra smoky subhyaline, veins pale, costal margin appearing white. Face pale tinted with fuscous, with dark brown or black portions of arcs either side with sutures dark.

Genitalia: Female last ventral segment strongly produced from short lateral margins to a rather narrow rounded lobe either side of an excavation which bears a short round black tooth which does not extend to the posterior margin of the lobes. Male plates triangular, elongate with produced narrow apices.

Holotype female, allotype male and male and female paratypes collected at Rio Frio, D. F., Mexico, elevation 10300 ft., October 7 and 18, 1941; paratype male from Cuernavaca, Mor., Mexico, elevation 5000 ft., October 21, 1941. All material collected by Caldwell, Good, Plummer and DeLong. In 1945 paratype males and females were collected in forest areas of pine and fir from undergrowth at Deserto des Leones, D. F., on October 9 and 17 at elevations of 9500 ft., by Hershberger, DeLong and Elliott.

***Idiodonus albocinctus* n. sp.**

A blunt headed species closely related to the *belli* group. Length 5.5 mm.

Vertex bluntly angled, less than twice as wide between eyes at base as median length.

Color: Vertex creamy white with a pair of large round black proximal spots at base. A very small black spot just beneath each ocellus. A transverse black band between the anterior margins of the eyes. This is slightly produced and sometimes interrupted at middle. Pronotum with a narrow black margin anteriorly, the anterior half and the posterior margin fulvous forming a rather broad pale transverse band across the posterior portion. Scutellum fulvous, a dark impressed transverse line across the middle. Elytra dark, smoky to black, with pale veins, face beneath creamy white with arcs and sutures dark.

Genitalia: Female last ventral segment strongly produced from lateral margins forming a rounded, rather narrow, produced lobe either side of a median broad shallow square excavation, almost truncate at apex and black margined. Male plates elongate, triangular, tapered to long acute tips.

Holotype female and allotype male collected at Deserto de los Leones, D. F., Mexico, elevation 9000 ft., July 11, 1924, (M. B.-72) by Dr. Dampf; Paratype males and females from Jacala, Hgo., Mexico, elevation 5000 ft., September 26, 1941; Carapan, Mich., Mexico, elevation 5000 ft., October 2, 1941, collected by Caldwell, Plummer, Good and DeLong. Paratype female from Chapingo, D. F., Mexico, elevation 9900 ft., June 11, 1924, (M. F.-196) by Dr. Dampf.

***Idiodonus tubulus* n. sp.**

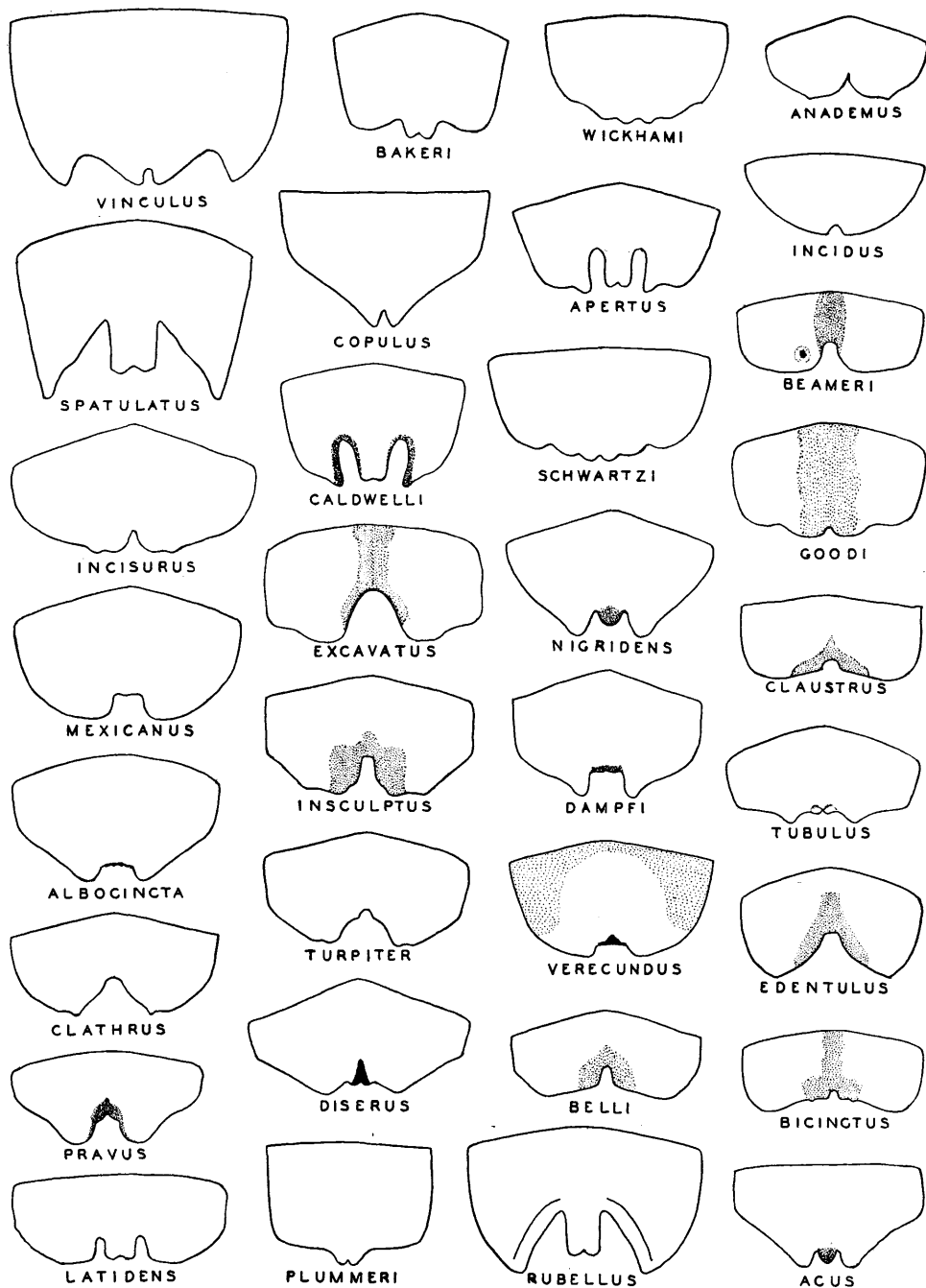
Resembling *albocinctus* in form and general appearance but without the black band on the vertex and with distinct female genitalia. Length 4.5 mm.

Vertex bluntly angled, twice as wide between eyes at base as median length.

Color: Vertex white with a pair of rather small dark brown spots at apex, the posterior half orange in the form of an irregular band between the eyes at base. Pronotum, anterior half pale brown, posterior portion white with a narrow, brown, posterior, marginal line. Scutellum pale brownish with a median transverse impressed dark line. Elytra pale brown subhyaline. Veins pale, face creamy tinted with fuscous, only faint traces of the arcs on either side.

Genitalia: Female last ventral segment rather short with posterior margins slightly produced to form a short blunt tooth either side of a broad shallow excavation which is slightly notched at the middle, forming what appears to be a pair of inconspicuous rounded sunken teeth. Male plates triangular, elongate, apices pointed.

Holotype female and paratype males and females collected at Chapingo, D. F., Mexico, elevation 9900 ft., November 25, 1924, by Dr. A. Dampf. Allotype male and male and female paratypes collected at Penon Marquez, D. F., Mexico, March 3, 1924, by Dr. Dampf.



Ventral view of last ventral segments of females of Mexican species of *Idiodonus*.

***Idiodonus pravus* n. sp.**

Resembling *albocinctus* in form and general appearance but smaller and with distinct female genitalia. Length 4.5-5 mm.

Vertex bluntly angled, almost twice as wide between the eyes at base as median length.

Color: Vertex pale yellow with a pair of round black proximal spots at apex. A black spot beneath each ocellus. A rather narrow black band between the anterior margins of the eyes. Pronotum anteriorly and posteriorly margined with black; the anterior third dark brown; the posterior two-thirds yellow tinted with green. Scutellum fulvous with a median impressed transverse line. Elytra dark brown to black, veins pale, costal margin hyaline. Face yellowish tinted with brown, the sutures and portions of arcs brown.

Genitalia: Female last ventral segment concavely rounded from short lateral margins forming rather broad rounded lobes either side of a broad median excavation which extends more than one-third the distance to base and is broadly dark margined at the apex giving the appearance of a deeper notch.

Holotype female collected at Zitacuaro, Mich., Mexico, elevation 6700 ft., September 29, 1941. Paratype female from Carapan, Mich., Mexico, elevation 5000 ft., October 2, 1941. Both collected by Plummer, Caldwell, Good and DeLong.

***Idiodonus diserus* n. sp.**

Resembling *albocinctus* in form and general appearance but with the transverse band replaced by a pair of transverse markings one on each side of vertex and with distinct female genitalia. Length 4.5 to 5 mm.

Vertex bluntly angled twice as long between eyes at base as median length.

Color: Vertex creamy white with a pair of rather large black spots at apex and a broad black dash either side of middle between eyes but not extending to eyes. Pronotum yellow tinged with green, a narrow black border both anteriorly and posteriorly. Scutellum yellow, bordered with black anteriorly with a median transverse impressed black mark. Elytra smoky, subhyaline with yellow veins. Face creamy white, sutures black, traces of brown arcs on each side of middle.

Genitalia: Female last ventral segment with lateral margins very short, posterior margins sloping to form a blunt lobe either side of a broad shallow excavation which is slightly notched at middle. The central apical portion heavily marked with brown, giving it the appearance of a deeper incision. Male plates triangular, rather broad at base with narrow pointed apices.

Holotype female collected at Chapingo, D. F., Mexico, elevation 9900 ft., June 18, 1929 (M. F. 210), male allotype and paratype males from the same locality collected March 17, 1924, by Dr. A. Dampf. Paratype male from Puebla, Pue., Mexico, elevation 8500 ft., October 18, 1941, collected by Plummer, Caldwell, Good and DeLong.

***Idiodonus titulus* n. sp.**

Resembling *belli* in color pattern but a blunt headed, narrow, wedge-shaped species with distinct genitalia. Length 4.5 mm.

Vertex scarcely produced, broad, rounded, more than twice as wide between eyes at base as median length. Elytra long and narrow.

Color: Vertex bright yellow with two large round proximal spots at apex. A rather large, black spot just beneath each ocellus next the eye. A broad black band between the anterior portions of the eyes which is bent basally at each end. Pronotum dull brown, black margined anteriorly. Scutellum yellow with the basal angles, median basal spot and a T-shaped mark on the posterior half fused so as to form a heavy black marking, leaving only two yellow spots on the disc and the apical margin pale in color. Elytra black except the broad hyaline costal margin, veins yellow, face bright yellow without markings.

Genitalia: Male plates rather broad at base, convexly rounded to acutely pointed apices.

Holotype male collected at Mexico City, D. F., Mexico, 42 Kilometers south, at an elevation of 10,000 ft., September 5, 1939, by Plummer and DeLong. Allotype female and male paratypes collected at Cruz Blanca, Vera, October 13, 1945, elevation 7000 ft. Female paratypes were also collected at Deserto des Leones, D. F., October 17, 1945, elevation 9000 ft., and Rio Frio, D. F., October 18, 1945, elevation 9500 ft., by Shaw, DeLong, Hershberger and Elliott.

***Idiodonus insculptus* n. sp.**

A broad blunt headed species with distinct dark marks on the anterior portion of the pronotum and scutellum. Length 6 mm.

Vertex broadly rounded, more than two and one-half times as broad as long.

Color: Vertex pale yellow with two elongated spots on margin extending between ocelli and fused so as to leave only a minute white spot at apex, the ends of the band extending beneath ocelli and fused with a spot below ocellus on each side. A broad black band touching the ocelli on each side extends transversely between anterior half of the eyes. This is sometimes interrupted at middle forming a black transverse spot at each eye. Pronotum yellowish, anteriorly, conspicuously marked with black spots, those along anterior margin are fused. The pair at the anterior center of the disc are rounded and are not fused with the other markings, posterior half marked with brownish pigment. Scutellum yellowish, anterior portion of basal angles marked with black spots. Two round black spots on the anterior portion of the disc and a heavy T-shaped mark on the posterior half. Elytra smoky subhyaline except the broad pale costal portion; veins yellow. Face pale yellow heavily marked with black, especially along the sutures, and black arcs of face which are fused on either side next to the clypeus and extend across the face just beneath the vertex.

Genitalia: Female last ventral segment with rather short lateral markings, the posterior margin sloping to a truncate position on median half which is rather deeply narrowly excavated. About one-third the distance to base the caudal margins are rounded to posterior margin. The excavation is broadly dark margined. Male plates triangular, elongate, apices pointed.

Holotype female, allotype male and male and female paratypes collected from pine at La Guarda, D. F., Mexico, (K. 40-43) at an elevation of more than 10,000 ft., September 5, 1939, and October 26, 1941, by Plummer, Good and DeLong.

***Idiodonus edentulus* n. sp.**

A blunt narrow headed species with four conspicuous black spots on vertex. Length 5.5 mm.

Vertex bluntly produced and rounded, twice as broad between eyes at base as median length.

Color: Vertex pale yellow. Disk tinted with orange. A pair of large proximal quadrate black spots at apex. A black spot just beneath each ocellus. A minute brown spot at middle just above apical spots. A large quadrate black spot next each eye above ocellus with an elongated portion extending basally. Pronotum dull brown with a few black markings along the anterior margin. Scutellum yellowish with a modified T-shaped black spot on basal half. Elytra smoky, subhyaline, claval portion and costal margin paler. Veins pale yellow. Face yellow with portions of the arcs rather faint in color.

Genitalia: Female last ventral segment roundedly produced to posterior margin which is broadly, convexly rounded either side of a broad excavation which is narrowed and truncated at apex and extends about one-third the distance to base. Median half of the last ventral segment broadly dark margined.

Holotype female and paratype females collected at Rio Frio, D. F., Mexico, elevation 10300 ft., October 7, 1941, and September 22, 1941, respectively, by Plummer, Caldwell, Good and DeLong.

***Idiodonus plummeri* n. sp.**

Resembling *caldwelli* in general form but with entirely different coloration and genitalia. Length 5 to 5.5 mm.

Vertex produced and bluntly angled, more than one-third wider between eyes at base than median length.

Color: Vertex creamy white with a pair of large black proximal spots at apex. These appear to almost fuse on their inner basal margins. A pair of elongate quadrate spots broadened next to the eye form the ends of an interrupted band between the anterior portions of the eyes. The central portion of the band is orange in color. The curvature of the posterior margins of the spots at apex and the anterior margins of the two quadrate spots give the appearance of portions of two concentric black rings. Pronotum dark brown with a median transverse white band.

The anterior margin is black and there are transverse black markings on the posterior half. Scutellum orange brown on anterior half, white on posterior half except for the triangular black mark on the median portion. Claval suture broadly white, claval veins pale, veins of the corium black, interrupted by white spots. Face creamy white with black sutures and black portions of arcs on either side.

Genitalia: Female last ventral segment rather long with posterior margin slightly produced to form a broad median tooth which is slightly notched at the middle.

Holotype female and paratype female collected at Rio Frio, D. F., Mexico, elevation 10300 ft., October 18, 1941, and September 22, 1941, respectively by Plummer, Good, Caldwell and DeLong. Paratype female from Tres Cumbres, D. F., Mexico, elevation 9100 ft., October 21, 1941 (K-52) collected by Good and DeLong.

***Idiodonus latidens* n. sp.**

Resembling *plummeri* in general appearance but more narrow, with a more produced head, distinct coloration and genitalia. Length 5 mm.

Vertex angularly produced and bluntly pointed, about one-third wider between the eyes than median length.

Color: Vertex white with red flecks, with two round black spots at apex. A pair of short broad transverse spots between anterior portions of eyes. These are located next to each eye and extend about one-half way to the median line. Posterior portion of vertex washed with pale brown. Pronotum darker brown with a median transverse white band which is bordered irregularly with dark brown. Scutellum pale brown on anterior half. Posterior portion creamy yellow with a yellow transverse impressed line at the end of which the black spot extends to the margin either side of apices. Elytra brown, subhyaline, claval suture broadly white, costal margin broadly whitish hyaline, bordered posteriorly by a heavy brown line which extends from base to apex of elytron. Face pale, washed with pale brown, sutures black, traces of black arcs either side.

Genitalia: Female last ventral segment rather short, broadly rounded from lateral margin to posterior margin which is truncated on median half with a narrow excavation extending about one-fourth the distance to base either side of a broad median spatulate process which extends to about the posterior margin. Male plates rather long and narrow, triangular, concavely rounded to pointed apices.

Holotype female, allotype male and male and female paratypes collected at Zitacuaro, Mich., Mexico, elevation 6700 ft., September 29, 1941. Female paratypes from Mexico City, D. F., Mexico, elevation 7500 ft., September 1, 1939; Carapan, Mich., Mexico, elevation 5000 ft., October 2, 1941, were collected by Caldwell, Good, Plummer and DeLong. Paratype male from Chapultepec Hts., D. F., Mexico, elevation 8000 ft., February 16, 1926 (M. B. 150) collected by Dr. Dampf.

***Idiodonus bakeri* n. sp.**

Resembling *plummeri* in coloration and general appearance but with a more angled vertex. Length 5 mm.

Vertex angled and bluntly pointed, about one-fourth wider between eyes at base than median length.

Color: Vertex white with a pair of large black spots at apex, sloping inwardly above and almost touching. A pair of elongate transverse spots, one just back of ocellus on either side extending one-half of the distance between eyes. The central interrupted portion of the band is a reddish brown color. Pronotum brown with a black spot behind each eye, a transverse band across middle and a marginal narrow band on posterior margin. Scutellum brown on anterior portion, a brownish triangular spot on middle of posterior half, white margined on each side. Elytra brown. Veins white on claval area, claval suture broadly white, costal margin white, veins of corium alternately marked with brown and white. Face white, sutures black, arcs of face either side black.

Genitalia: Female last ventral segment slightly excavated either side of a broad median tooth which is rather short and slightly notched at the middle.

Holotype female collected at Deserto de los Leones, D. F., Mexico, elevation 9200 ft., September 23, 1923, by Dr. A. Dampf. Paratype females from same locality December 9, 1923, and March 29, 1925 (M. B. 116) by Dr. Dampf. Paratype females collected at Deserto des Leones, October 17, 1945, elevation 9500 ft., by DeLong, Hershberger and Elliott; paratype female at Laguna de Zempoala, Mor., (K-10), elevation 8500 ft., by Plummer, Elliott, Hershberger and DeLong.

It is a pleasure to name this species in honor of Dr. A. C. Baker who has assisted the writer in so many ways in the collection and field studies of Mexican leafhoppers.

***Idiodonus excavatus* n. sp.**

Resembling *edentulus* in general appearance but more robust and with definite coloration. Length 5.5 mm.

Vertex bluntly angled, almost twice as broad between eyes at base as median length.

Color: Vertex creamy white tinted with yellow with two round black spots at apex, a smaller semicircular spot convexly rounded anteriorly next each eye, between which is a reddish brown band. Pronotum brown on anterior half. Anterior margin narrowly black. A broad, white, transverse band extends across pronotum just before the posterior brown bordered margin. Scutellum yellow, basal angles orange, a median transverse impressed black line. Elytra pale brown, subhyaline. Veins white, claval suture broadly white, costal margin broadly white, subhyaline. Face yellow, sutures black, a round black spot beneath each ocellus and sutures of the face either side black.

Genitalia: Female last ventral segment with the posterior margin slightly produced forming a broad rounded lobe either side of a broad U-shaped median excavation, extending almost half the distance to the base.

Holotype female and paratype female collected at Zimapan, Hgo., Mexico, elevation 6000 ft., September 26, 1941, by Good, Caldwell and DeLong. Paratype females collected at Rio Frio, D. F., October 10, 1945, elevation 9500 ft., by Hershberger, Elliott and DeLong.

***Idiodonus mexicanus* n. sp.**

Resembling *excavatus* in general appearance but with a blunter vertex and distinct coloration. Length 4.5 mm.

Vertex blunt, about one and one-half times as broad between the eyes at base as median length.

Color: Vertex creamy white with two large round black proximal spots at apex and a rather large spot beneath each ocellus next the eye. A broad, irregular, black, transverse band between the middle of eyes. Pronotum brown, anterior margin broadly black with a rather narrow pale band, bordered anteriorly with brown, just before posterior margin. Scutellum orange brown with a conspicuous T-shaped black mark on the posterior half. Elytra dark brown to black subhyaline, costal area broadly white; veins pale.

Genitalia: Female last ventral segment with short lateral margins, posterior margin broadly convexly rounded forming a rather square excavated notch with a truncated apex one-fourth the distance to base.

Holotype female collected at Deserto de los Leones, D. F., Mexico, elevation 9200 ft., September 23, 1923, by Dr. A. Dampf.

***Idiodonus goodi* n. sp.**

In general appearance resembling *mexicanus* but more narrow with a definite color pattern and distinct genitalia. Length 5 mm.

Vertex scarcely produced, almost parallel margined, almost twice as broad between eyes as median length.

Color: Vertex pale yellow with a pair of round black proximal spots at apex. A smaller spot just beneath each ocellus next the eye, a conspicuous transverse black band enlarged at either end between the anterior margins of the eyes. Pronotum dull grey, black margined anteriorly. Scutellum yellow, a semicircular dark spot in each basal angle, a black cross on the middle.

Elytra grey to smoky, subhyaline, veins pale. Claval veins broadly yellow, costal margin broadly pale, bordered posteriorly by broad brown stripe. Face bright yellow, unmarked.

Genitalia: Female last ventral segment with posterior margin sinuate, forming a broad rounded lobe either side of shallow median notch.

Holotype and paratype females collected at La Guarda, D. F., Mexico, elevation 8500 ft., October 26, 1921, and September 5, 1939, respectively, by Good, Plummer and DeLong.

I take pleasure in naming this species in honor of E. E. Good, whose excellent field work has showed him to be a promising biologist.

***Idiodonus clathrus* n. sp.**

Resembling *insculptus* in general color pattern of the head but more narrow and without markings on the pronotum and with distinct female genitalia. Length 5 mm.

Vertex transverse and almost parallel margined, twice as wide between eyes at base as median length. Scarcely produced.

Color: Vertex creamy white, a pair of elongate transverse spots almost fused at middle, forming a broken transverse band on margin between ocelli. A black spot just beneath ocellus against each eye. A broad irregular band between the anterior portions of the eyes, almost paralleling the broken band on the margin. Pronotum dark brown mottled with black. Scutellum, anterior portion orange brown with a black T-shaped mark on posterior half. Posterior portion white. Elytra smoky subhyaline. Veins mostly brown. Face yellow, sutures black, black arcs on either side.

Genitalia: Female last ventral segment with posterior margin broadly rounded either side of a broad median excavation which is narrowed at apex and extends about one-third the distance to the base. Male plates elongate, triangular. Apices attenuated, long and slender.

Holotype female, allotype male and male paratypes collected at La Guarda, D. F., Mexico, elevation 9800 ft., September 5, 1939, by Plummer and DeLong. Paratype males and females collected at Rio Frio, D. F., Mexico, elevation 10300 ft., October 7, 1941, September 22, 1941, Mt. Popo, Mexico, elevation 11500 ft., September 28, 1941, La Guarda, D. F., Mexico, elevation 8500 ft., October 28, 1941, by Plummer, Caldwell, Good and DeLong. Paratype males and females collected at Rio Frio, October 18, 1945, elevation 9000 ft.; Morelia Rd., at border of Mexico and Michocan, September 28, 1945, elevation 7200 ft., and at Laguna de Zempoala, Mor., October 21, 1945, elevation 9500 ft., by Plummer, Elliott, Hershberger and DeLong.

***Idiodonus turpiter* n. sp.**

Resembling *clathrus* in general form and appearance but with different color markings. Length 5 mm.

Vertex bluntly roundedly produced, twice as wide between the eyes at base as median length.

Color: Vertex white with a pair of transverse spots on margin between the ocelli. These are narrowest at the ocelli and are broadened at median line where they are narrowly separated with white. There is a small black spot beneath ocellus either side. There is a large black somewhat quadrate spot just above each ocellus which replaces the band in *clathrus*. The disc is broadly orange brown. Pronotum dark brown with a pale area in the anterior median portion. Scutellum reddish brown with a median, impressed, transverse black line at each end of which is a white marginal area. Elytra pale brown, subhyaline. Veins pale, face creamy white, sutures black, black arcs on face either side of median line.

Genitalia: Female last ventral segment rounded from lateral margins to a produced posterior margin which is rounded on either side of a broad median excavation almost one-third the distance to base. The excavation is slightly roundedly notched at apex.

Holotype female and paratype females collected at La Guarda, D. F., Mexico, elevation 9800 ft., October 26, 1941. Female paratypes collected at Rio Frio, D. F., Mexico, elevation 10300 ft., September 22, 1941, Mt. Popo, Mexico, elevation 11,000 ft., and Puebla, Pue., Mexico, elevation 8500 ft., October 18, 1941, by Caldwell, Good, Plummer and DeLong. Paratype females collected at Rio Frio, D. F., elevation 9500 ft., October 18, 1945, by DeLong, Hershberger and Elliott.

***Idiodonus anademus* n. sp.**

Resembling *turpiter* in general form and appearance but with distinct markings and female genitalia. Length 4.5 to 5 mm.

Vertex blunt and slightly produced almost twice as broad between the eyes at base as median length.

Color: Vertex pale with two broad transverse spots on margin between ocelli, slightly separated at middle. A quadrate black spot just beneath each ocellus. An angular black spot just above each ocellus. A median black line on disc, basal two-thirds orange brown, basal margin white. Pronotum dark brown with a median longitudinal pale stripe. A small quadrate black spot either side of median line not far from anterior margin. Scutellum orange brown, basal angles darker. A pair of round, black, median spots on anterior portion and a median transverse black line. Elytra brownish, subhyaline. Veins mostly brown alternated with white. Costal margin white. Face creamy white tinted with brown, sutures black and portions of arcs either side of middle, brown.

Genitalia: Female last ventral segment rather short, lateral margins rounded to posterior margin which is broadly, roundedly produced either side of a broad V-shaped median notch which extends about one-fifth the distance to base with a brown spot at apex causing it to appear more deeply notched. Male plates rather broad and convexly rounded to an acutely pointed apex.

Holotype female, allotype male and male and female paratypes collected at La Guarda, D. F., Mexico, elevation 9800 ft., September 5, 1939, by Plummer and DeLong. These were taken from pine.

***Idiodonus nigridens* n. sp.**

Resembling *anademus* in general form and appearance but with different color pattern and distinct genitalia. Length 5 mm.

Vertex bluntly produced, less than twice as wide between eyes as median length.

Color: Vertex white tinted with yellow. A pair of large black spots at apex which are tapered on outer margin and are somewhat transverse. A large black spot just beneath each ocellus and next the eye. A very small black spot just above each ocellus between which there is a broad transverse orange band. Pronotum orange brown with an inverted white T-shaped mark on the posterior portion. Scutellum orange brown, an inconspicuous impressed black transverse line at middle. Elytra brownish hyaline. Veins brown, alternately marked with white. Face yellowish, heavily marked with dark brown or black; sutures are broadly black and the arcs are fused next to the clypeus and are somewhat fused on their inner margins on upper portion of the face.

Genitalia: Female last ventral segment sloping from short lateral margins to form rather narrow produced rounded lobes either side of a broad excavation about one-fifth the distance to base which bears a broad rounded black tooth at middle. The tooth does not extend to the posterior margin of the segment. Male plates small, triangular, elongate, with pointed apices.

Holotype female collected at Cuernavaca, Mor., Mexico, elevation 4900 ft., October 21, 1941, allotype male and paratype males and females from Carapan, Mich., Mexico, elevation 5000 ft., October 2, 1941; Rio Frio, D. F., Mexico, elevation 10300 ft., September 22 and October 18, 1941; Tres Cumbres, D. F., Mexico, elevation 9100 ft., collected by Plummer, Caldwell, Good and DeLong, and Mexico City, D. F., Mexico, elevation 7500 ft., September 2, 1937, (M. F. 6189), collected in pine forest by Dr. A. Dampf. Paratype females collected at Rio Frio, October 18, 1945, elevation 9000 ft., by Hershberger, Elliott and DeLong.

***Idiodonus incidus* n. sp.**

Resembling *nigridens* somewhat in general form but with entirely different coloration and female genitalia. Length 4.5 mm.

Vertex produced and bluntly angled, more than twice as broad between eyes at base as median length.

Color: Vertex with the marginal area white. The posterior two-thirds reddish brown with two round black proximal spots on apex and a black spot about the same size just above each ocellus. The dark coloration on the posterior portion extends from the line connecting these

two spots. Pronotum orange brown unmarked. Scutellum orange brown with an inconspicuous black transverse line on the middle, at each end of which is a small triangular white marginal spot. Elytra smoky subhyaline, the anterior end of claval veins white and the veins on the posterior part of the elytra paler. Face creamy white, sutures and dark arcs on either side of the face, black.

Genitalia: Female last ventral segment with posterior margin broadly roundedly convexly produced from base with a minute U-shaped notch at middle.

Holotype female collected at La Guarda, D. F., Mexico, elevation 8500 ft., September 5, 1939, by Plummer and DeLong. Paratype females collected at Laguna de Zempoala, October 21, 1945, elevation 10,000 ft., in pine and fir forest by Plummer, DeLong, Hershberger and Elliott.

***Idiodonus graeculus* (Ball)**

Thamnotettix graeculus Ball. Can Ent. 33 : 6, 1901.

A blunt headed species without markings on vertex or pronotum. Length 5-5.5 mm.

Vertex bluntly angled, more than twice as wide between eyes as median length.

Color: Vertex, pronotum, scutellum and face bright canary yellow, the disk of pronotum slightly tinged with brown, basal angles of scutellum darker. Elytra brownish subhyaline with spots of milky white coloration especially white areolar spots along the commissural line and clavus.

Genitalia: Female last ventral segment with the lateral angles rounded, between which the posterior margin is deeply excavated halfway to the base at the apex of which there is a spatulate process produced to the length of the lateral angles. Male plates rather long, triangular, with apices acutely pointed.

One specimen was collected at Saltillo, Coah., Mexico, elevation 7000 ft., September 23, 1931, by Good, Caldwell and DeLong. This is the only record that has been obtained to date for this species in Mexico.

Subgenus *Angulanus* nov.

As compared with *Idiodonus* the vertex is bluntly angled and is angled with the face. In *Idiodonus* the vertex is rounded to the face. The first apical cell of the elytron is large and about as wide as long. The first anteapical is triangular and about half as long as the second anteapical. The apex of the first anteapical is oblique and does not extend as far apically as the apex of the second anteapical. The first anteapical tapers to a pointed anterior end and partially lies in the concavity formed by the constriction of the second anteapical on its apical half. There is only one cross nerve on the corium.

Genotype *Idiodonus incisurus* n. sp.

***Idiodonus incisurus* n. sp.**

Somewhat resembling *graeculus* in general appearance but with a more produced vertex which is flattened at margin and with a different color pattern. Length 5 mm.

Vertex roundedly produced, less than twice as wide between eyes at base as median length.

Color: The face is bright yellow, unmarked, color extending over margin to vertex with a row of six somewhat fused brown spots just above margin. The central portion of disc is dark brown just posterior to this band except the longitudinal pale line at middle. A pale brown spot in each basal angle next the eye. Pronotum appearing brownish due to the mottled pigment throughout. Scutellum bright yellow, basal angles darker. Elytra pale subhyaline with spots of fuscous and veins dark brown. The color of the wings gives it a milky white appearance.

Genitalia: Female last ventral segment roundedly produced from the lateral margins to form the posterior margin which is broadly, convexly rounded either side of a median rather broad V-shaped notch extending about one-sixth of the distance to base. Male plates elongate, triangular, margins almost straight, apices pointed.

Holotype female, allotype male and paratype males collected at La Guarda, D. F., Mexico, elevation 8500 ft., September 5, 1939, by Plummer and DeLong. A series of male and female paratypes were collected at Tepetzlan, Mor., Mexico, September 11, 1941, by Good, Plummer, Caldwell and DeLong.